

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Takashi KUBOTA et al.

Appln. No.: New U.S. National Phase

Filed: Concurrently herewith

Attorney Dkt. No.: 108384-00032

For: MANUFACTURING METHOD FOR COMPOSITE MATERIAL AND
COMPOSITE MATERIAL OBTAINED THEREBY

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

November 9, 2001

Sir:

Prior to initial examination of the application, please amend the above-identified application as follows:

IN THE CLAIMS:

Please amend claims 3-8 as follows:

3. (Amended) A manufacturing method for a composite material in which a bulk body manufactured by the method according to claim 1 and a raw material for base material comprising a metal or a nonmetal or a compound thereof constituting the base material are melted, mixed, and formed by casting, by which the concentration of dispersion material is controlled.

4. (Amended) A manufacturing method for a composite material in which a composite material manufactured by the method according to claim 1 is rolled or heat-treated, by which the crystal structure is controlled.

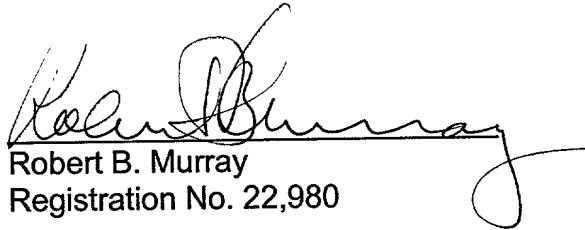
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5. (Amended) The manufacturing method for a composite material according to claim 1, characterized in that a raw material is evaporated by a sputtering method.
6. (Amended) The manufacturing method for a composite material according to claim 1, characterized in that the evaporated particles are deposited while the substrate is rotated.
7. (Amended) The manufacturing method for a composite material according to claim 1, characterized in that the substrate has the same material as those of the base material.
8. (Amended) A composite material manufactured by the method according to claim 1.

REMARKS

Claims 1-9 are pending in this application. By this Amendment, claims 3-8 are amended to delete the multiple dependency thereof and to place this application into better condition for examination. No new matter is added.

Respectfully submitted,


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CLAIMS

1. A manufacturing method for a composite material in which a metal or a nonmetal or a compound thereof is used as a base material, and at least one kind of metals or nonmetals or compounds thereof different from the base material is dispersed as a dispersion material, characterized in that
- 5 a raw material for base material comprising a metal or a nonmetal or a compound thereof constituting the base material and at least one raw material for dispersion material comprising metals or nonmetals or compounds thereof constituting the dispersion material are evaporated simultaneously or alternately, and the evaporated particles are deposited on a substrate to form a bulk body.
- 10
- 15
2. A manufacturing method for a composite material in which a metal or a nonmetal or a compound thereof is used as a base material, and at least one kind of metals or nonmetals or compounds thereof different from the base material is
- 20 dispersed as a dispersion material, characterized in that
- a raw material for evaporation comprising a metal or a nonmetal or a compound thereof constituting the base material or a metal or a nonmetal or a compound thereof constituting the dispersion material is evaporated in an atmosphere of any
- 25 one of hydrocarbon gas, oxygen gas, and nitrogen gas, and the evaporated particles are deposited on a substrate to form a bulk body.

3. A manufacturing method for a composite material in which
a bulk body manufactured by the method according to claim 1
[or 2] and a raw material for base material comprising a metal
or a nonmetal or a compound thereof constituting the base
5 material are melted, mixed, and formed by casting, by which
the concentration of dispersion material is controlled.

4. A manufacturing method for a composite material in which
a composite material manufactured by the method according to
10 [any one of] claims [1] (to 3) is rolled or heat-treated, by which
the crystal structure is controlled.

5. The manufacturing method for a composite material
according to [any one of] claims [1] (to 4), characterized in that
15 a raw material is evaporated by a sputtering method.

6. The manufacturing method for a composite material
according to [any one of] claims [1] (to 5), characterized in that
the evaporated particles are deposited while the substrate
20 is rotated.

7. The manufacturing method for a composite material
according to [any one of] claims [1] (to 6), characterized in that
the substrate has the same material as those of the base
25 material.

8. A composite material manufactured by the method
according [to any one of] claims [1] (to 7).

9. The composite material according to claim 8,
characterized in that the base material is aluminum and the
dispersion material is carbon.

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